SBI3U Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3.3 - The Animals**

-What are the distinguishing features of organisms in the Animal kingdom?

-What are some important roles that animals play in ecosystems & for humans?

-Describe traits of the common ancestral species of all animals.

-Know the key characteristics used to classify animals into their various phyla, classes, orders, etc. [See also Figure 5, page 98]:

-presence of a nerves/nervous system (present in all phyla except Porifera)

-**radial symmetry** vs. **bilateral symmetry**

-**protostomes** vs. **deuterostomes**

-number of **germ layers** (ectoderm, mesoderm, endoderm)

-presence of a body cavity (**coelom**)

10 major phyla of Animal kingdom:

Invertebrates:

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| --- | --- |
| Porifera | Cnidaria |
| -example: sponges  -the only phylum with no nervous system  -sessile as adults | -examples: hydra, jellyfish, anemones, coral animals  -nervous system (as well as other specialized systems) & radial symmetry |

Protostome Invertebrates:

-very diverse body plans

-life cycles usually involve distinct stages

-can be agricultural pests (compete with humans for same plant food sources)

-can cause parasitic diseases or be vectors for disease

-many ecological roles

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| Arthropoda | Nematoda (roundworms) | Annelida |
| -example: insects  -complete organ systems  -segmented bodies  -only invertebrates capable of flight | -example: pinworms  -many parasitic species | -example: earthworms  -segemented bodies  -complete digestive system |
|  | | |
| Mollusca (molluscs) | Rotifera | Platyhelminthes (flatworms) |
| -examples: snails, octopus  -3 main body parts: foot, body, mantle (which sometimes secretes a shell) | -example: rotifers  -small freshwater species | -example: tapeworms  -digestive cavity (not tract) |

Deuterostomes:

|  |  |
| --- | --- |
| Echinoderms | Chordates |
| -example: starfish  -bilateral symmetry at early stages, radial symmetry as adults  -complete digestive system  -movement using water-filled vascular system | -examples: fish, amphibians, mammals, reptiles, birds  -include some of the most complex living organisms (most advanced organ systems, most complex behaviours)  -most are vertebrates  -See Figure 16 (page 103) for key characteristics of chordate ancestor.  -See Figure 17 (page 104) for the key features of chordates; identify which features supported a transition from water to land  \*You don't need to know the details of each of the Chordate groups in Table 2 (page 105) |